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*On the CLASSIFICATION of the PEOPLE by OCCUPATIONS; and on
OTHER SUBJECTS connected with POPULATION STATISTICS of
ENGLAND. By T. A. WELTON, Esq.*

[Read before the Statistical Society, 15th June, 1869.]

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I.—*Introduction.*

IT is perhaps natural, and certainly very usual, that in superficially viewing things, a kind of inverted image presents itself. Thus the sun, not the earth, was supposed to move; valleys are still considered by some to have been ordained for the accommodation of rivers; and the rural population have been thought to labour, merely in order to supply the towns.

The fact, that without any particular ordinance, the mere existence of springs, coupled with the irregularities in the surface of the earth, would necessitate the formation of rivers, is one to which some people think it almost a duty to shut their eyes. It harmonises better with their habits of thought to assume a providential decree for each individual fact, than to consider that the brooks run where they must, not where it is specially ordained they should, descending by the most facile course from the high to the lower land; gathering into lakes if they fall into hollow places, overflowing these, and again breaking away, perhaps at a sharp angle with their former course, receiving continually tributaries, which tend, perforce, to the same low level; anon swelling into navigable rivers, winding between level fields, but always keeping the same downward track, and eventually, except in a few instances, falling into the ocean.

Then there are exceptions even to these rules. Sometimes even rivers seem to have some choice which way they will run. Witness the wonderful natural canal, which carries part of the waters of the Rio Negro into the Orinoco; also the repeated instances of islands, formed by rivers running through low lands and finding two courses nearly equally eligible, which may or may not speedily reunite. If they do divide, rivers are still under a necessity: they

must ever follow the easiest path, and either form a natural canal, an island, or a delta, as circumstances may lead them.

The force of gravitation, which controls the course of rivers, is paralleled in human society by the almost equally potent necessity of providing for animal wants; and just as the infinite variety of natural phenomena may be traced to the operation of a few great laws under diverse circumstances, so the reasons which have impelled mankind to live together in cities or in villages, or to migrate from one place to another, will in general be found to be connected, if not with the instinct of self-preservation, at least with that wish which cannot but be universal, to obtain the most tolerable subsistence which seems to be within reach.

It were useless to endeavour to detail the steps by which, from the most primitive ages down to the present time, the organisation of society has been modified and rendered complex. It is certain, however, that as each river has its valley, each town has its natural field of action, according to the circumstances which led to its foundation, or prompted its extension.

Two motives, perhaps three, must have been early and powerful in their operation, in promoting the aggregation of dwellings. Men live together, at first, because a place is pleasant and suitable as a residence, and there is much fertile land near. Then the necessity of uniting for mutual defence perhaps impels them to congregate in denser masses. Lastly, trade seizes upon eligible spots for the forwarding of goods, and towns arise thereon.

Even causes, themselves irregular and capricious, though frequently operative in the formation of towns, must first press with the rigour of necessity on the *mass* of the population before a town can be formed. Thus the castle of a prince has often been the nucleus of a town; even the shrine of an adored saint, or the seat of a powerful religious establishment has frequently drawn together a considerable population. The services demanded by the prince, the pilgrims or the ecclesiastics have compelled, or attracted, servitors and traders to reside at such places. Then there has been a natural tendency to turn to account what other resources the place might be found to have, and generally a trading town, or even a seaport, has been formed, the latter usually as an adjunct to the town, on the nearest convenient spot, as Southampton was the port of Winchester.

Pilgrimages have ceased, at least in this country, but the annual summer migration of the denizens of cities serves to attract a regular population to places like Brighton and Scarborough. Medicinal springs, too, have given consequence to various towns. With us, and in a less degree abroad, the growth of particular manufactures has raised certain towns to greatness. Also where

otherwise, there would not be a centre of supply, near enough for the convenient recourse of the rural population, some place is sure to rise into importance, though without special advantages, perhaps deriving its original impetus from the spirit of its traders, but eventually acquiring additional claims to superiority, from being made the seat of a bishopric, or of a district tribunal, or particularly from the creation of a converging system of roads, such as is so strikingly exemplified at Norwich.

A mere county or assize town is by no means, for that reason alone, apt to become a place of importance. Fredericton, in New Brunswick, could never vie with St. John's, nor could Washington become a dangerous rival of Philadelphia or New York. Although we may fairly presume that places are usually pitched upon for such purposes, on account of their already having become important, yet a change of circumstances will occasion even a capital city like Winchester to be almost deserted, if *no real advantages exist*, such as without extraneous aid could give support to a large population.

This leads me to remark, that the fate of Winchester will soon be shared by great numbers of smaller places. The difficulties of transit are no longer so great as to render it necessary to have a small town to every five miles of territory, and a larger place every twenty or thirty miles; these local centres will therefore gradually fall into decay, and a few large places, aided by railway communication, will be found sufficient for the supply of our rural population and for the sale of their produce.

After all, in a peaceful country like this, towns may be said to be nothing more than aggregations of dwellings, and will not fail to increase or diminish in proportion to the need there is for them, and the greater or less attractions of other places. But as there are many groups of habitations dotted over the country, which are not easily distinguishable from towns, and as the boundaries of the recognised cities, boroughs, and other towns are most frequently irregular, it becomes desirable to lay down a definition by which to be guided, when speaking scientifically of their magnitudes.

The old rule made use of by the citizens of London was, that the outermost inhabitants should be able to call to each other from house to house; and this, as far as I can judge, was a very proper rule in former times. In these days, however, a few additions must be made to it; as, for example, Liverpool has extended itself beyond the Mersey, and many populous places have arisen near the outskirts of great cities.

If, then, we allow that a town should be held to extend so far as habitations are found to reach from its centre without material interruption, including places cut off by rivers, across which the

traffic by ferry is as easy and cheap, and almost as frequent as it would be by a bridge, and if we further grant a margin of say about one-fifth of the diameter rigidly measured, so as to embrace such localities as may lie a little beyond the regular line, but are in constant communication with the centre, by means of railways and omnibuses, we may flatter ourselves that very few places will be unfairly used, at least out of the hundreds within the United Kingdom.

It will still be necessary to stipulate that the boundary thus fixed shall be regular in form (either circular or elliptical, as occasion may require), and drawn so as to embrace, as nearly as possible, all the houses which might be claimed as belonging to the town. Also, that a certain minimum density of population shall be attained within the limits fixed; and the smaller the town, the lower this minimum density must be, since small places rarely possess a densely-peopled central portion, corresponding with the heart of a city.

In order to judge whether the place thus defined really is a town of the old-fashioned sort, or is merely an aggregation of habitations for the accommodation of miners or manufacturers, it next becomes necessary to examine the census of occupations.

In old-fashioned towns, such as Salisbury, Bury St. Edmunds, and Chester, a large proportion of the population are engaged in what I have denominated secondary occupations. In the other kind of places, those engaged in secondary occupations are not much above the national average, perhaps in some cases below it.

The secondary occupations are those connected immediately with the consumption of articles of necessity, and with the supply of the daily wants of the population. The primary occupations are those which are connected with the production and manufacture and traffic in articles, afterwards to fall into the hands of the secondary class, and in general all occupations which do not subserve merely the supply or benefit of the *neighbouring* population, but also that of distant places, or which are necessary for the fulfilment of national requirements.

The secondary classes, such as bakers, butchers, publicans, grocers, tailors, milliners, carpenters, blacksmiths, carriers, cab drivers, domestic servants, clergymen, doctors, and schoolmasters, are a part of the population with which every one must needs be familiar; but the primary classes are not often resorted to by the general public, nor do their productions or services reach the consumer, as a rule, except through the intermediation of some of the secondary classes.

The secondary classes exist everywhere, whether in towns or rural districts, on the coast or in the interior, among the rich and

poor alike, though varying in their numbers. None of the primary classes exist everywhere; in towns, agriculture cannot of course be carried on, and there are many rural districts in which commercial, mining, or manufacturing pursuits find no place; the unequal and partial distribution of our mining, manufacturing, and commercial population is in fact too obvious to need more than a bare reference to it.

Where the numbers of the secondary classes as a mass are few, each class of which their total is made up, will usually be found to participate, more or less, in the general scantiness of numbers; where they rise to special importance, each class will in general be observed to share in the augmentation more or less largely. But whether the populations engaged in the primary occupations are in the aggregate great or small, it is impossible to judge what ratio each particular class may be expected to bear to the total number. The primary classes depend on the natural advantages of the situation in which they are found, and may be in different cases almost wholly devoted to agriculture, to mining, or to manufacture; the secondary classes depend on the wants of human nature, which are not so variable, hence the greater regularity of their numbers.

These distinctions are broad enough, and by keeping them in mind, it is possible to devise a useful classification of the occupations of the people. Such a classification is indicated in my published papers on the Census of 1851, which I sent to the Census Commissioners of 1861.

I wish here to express my sense of the courtesy and attention with which my suggestions were received by the commissioners, and to say, that in the volume "*On the Ages, Civil Condition, Occupations, &c., of the People in 1861,*" I recognise many striking improvements in classification, which will facilitate future investigations. I observe, also, with pleasure, a much-needed rectification in the form of the tables of birthplaces, and some important additional particulars as to the civil condition of the population at *various ages* in the several registration districts.

I must, however, take exception against the form of the tables on occupations, which (though improved) is still at variance with the principles which I have just been describing. I am deeply convinced that attention to those principles is necessary to a due understanding and vivid conception of the organisation of industry, and if I dwell upon the subject with earnestness, it is because I feel how important it is that that organisation should be distinctly shown and made obvious to all. The full meaning of other population statistics can never be gathered, and misconceptions of daily phenomena can never be guarded against until this subject is thoroughly explored.

I am the more urgently impelled to comment upon the matter, because the Census Commissioners have not merely disregarded my recommendations on this particular topic. In the appendix by our esteemed vice-president, Dr. Farr, at the end of the "Census Report," he appears to set up a different theory from mine, which must therefore be condemned by default, unless I am permitted to say something in reply. I therefore proceed to consider the appendix alluded to, which is entitled "The New Classification of the People according to their Employments."

II.—*Official Report on Last Census.*

In the first place, I would urge that the elaborate introductory essay contains no such comprehensive rules as ought really to form the basis of a scientific classification such as this is meant to be. There is much that is true, but also much tending to confuse the mind, rather than to supply a clue to the right method of reducing the chaos of occupations to an orderly arrangement. Indeed, I think the natural conclusions derivable from this essay are, that a scientific arrangement of the ambitious kind indicated is unattainable, and that even if attained, its practical value might not be very great.

Secondly, when the actual classification is come to, the introductory remarks are almost entirely ignored, and the conclusions are rather given on their intrinsic merits than deduced from what precedes them. Such as they are, they might have been arrived at empirically, without any attempt at a scientific introduction, and a new nomenclature; in which case no objection could have been raised, except upon their practical merits.

I have received an intimation that the two sections would not have been thus connected, but for an oversight in correcting the press. It will, therefore, be proper to consider them separately, although I am unable to understand why they should not substantially agree one with the other.

Reviewing the appendix more in detail, with a view to exhibit the grounds of the foregoing objections, we are first struck by the singular definition of the word "product" which it contains. For the sake of uniformity, not only things, but also services,* are treated as products; not only menial services, but the rites of religion, and the protection afforded by the civil and military powers, are also treated as products.

Again, every change in the form or in the condition of a product does not, it seems, make it a new product. It may be much

* "The men themselves rendering these services are indeed products," p. 228.

changed, it may undergo several processes, but is still the same product, we are told, *until it changes hands*. It then becomes a new product, even if not altered in the least. To quote the appendix:—

“Some products are consumed in their first form. Many articles, commonly secondary products, such as potatoes, turnips, &c., are consumed by the producers. Oftentimes the products are advanced a step further than the list indicates, by the intervention of the merchant or the shopkeeper; thus potatoes, &c., are sold in towns to the greengrocer, &c., in whose hands they become tertiary products.”

“Articles undergo great changes without becoming new products; thus grapes are converted into wine, apples into cider, thread often into calico, without changing hands.”

It is unfortunate that this very remarkable essay is buried in an appendix; I must not quote too largely from it, and yet I fear that few statisticians will peruse it in the original. The subject well merits fuller discussion than it seems likely to meet with.

I will not hesitate for a moment to allow, that for a scientific purpose, a non-natural significance may be allowably given to an ordinary word, such as “product.” But some proof should be given of the utility of every such new definition.

Finding that great stress had been laid upon the definition of the word “product,” and also upon the successive rank of different products, I naturally looked for some practical rule, deduced therefrom, and influencing the mode of classification. But I looked in vain. All ends in the uncomfortable assurance that there are some products, the exact rank of which cannot be stated, since it depends upon the number of hands through which the material for the manufacture of such products may have passed, and which the very manufacturers themselves cannot always know.

If it were desired merely to prove that all the things called products possess utility; if the object in view were only to demonstrate the fallacy of the two doctrines, (1) “That the land is the only source of wealth, and all persons not agriculturists are therefore unproductive;” and (2) “That manual labour is the only source of wealth:” if this were the object, it surely might have been accomplished in a more effectual and less cumbrous manner.

Again, if it were desired merely to prove the propriety of classifying the people, so that the workers on successive forms of the same original product should be placed together, and follow each other in their usual sequence, it would hardly seem to have been necessary to go into an argument so elaborate for that purpose only. Such an arrangement is perhaps one of the most obvious which could be suggested, although it by no means meets the whole

of the difficulties by which the process of classification is rendered arduous.

Perhaps it will be argued that the enlarged sense given to the word "product" *must* be admitted, if we agree to the division of all mankind into "those who are unproductive, and those who "create products." But I see no occasion to admit such a crude and brief definition as that, and would recommend that it be superseded by one more suitable to the facts,* allowing the usual meaning to attach to the words employed. To lay down a short formula, and then twist everything into conformity with it, seems to my apprehension a very unscientific mode of procedure.

There follows a subdivision of the appendix, on the "Naming "of Producers," full of information, and gracefully expressed, like everything else from the pen of Dr. Farr, but which does not much advance the scientific part of the design, and certainly does not contain the grounds for the "classification of producers," which comes immediately after, introduced by the paragraph commencing "Men may be conveniently grouped as producers in six classes and "in eighteen orders." Here, no doubt, the section commences, which should have been printed separately.

Without laying much stress upon the matter, I must remark, that I can see nothing in the whole of the introductory essay which should prepare us for six classes and no more, and those the identical six which are afterwards expounded. There are *indications* of eight classes of producers, viz., of—

1. Mineral products.
2. Vegetable or agricultural products.
3. Animal products.
4. Products by transfer or transport.
5. Services considered as products.
6. Intellectual products.
7. Defence (a product).
8. Government (a product).

But nothing to show the exact manner in which the classification is to be accomplished. We now find the first four of the above treated as the commercial, agricultural, and industrial classes, and the last three grouped together as the professional class.

If we consider the six classes a little further, we shall see that they are absolutely based, to some extent, upon principles *not laid down* in the introductory essay, as, for example:—

The agricultural class is made to include all "*growers*" of crops and animals.

* *Ex. gr.* "Those who are employed upon objects of real or supposed immediate utility, and those who are not so employed."

The industrial class is that of "makers" or artisans. "They
"deal in matter that is *either no longer living, or that never
lived.*"

Now these classes are decidedly unlike the classes of producers of things respectively vegetable, animal, and mineral. They indicate a new idea, viz., the separation of "growers" of living things from those working on lifeless matter.

I do not profess to admire either classification. I believe I have been right in regarding rather the actual relations of classes, than such abstract notions as these. Enough, however, has been said concerning general principles. Let us consider next the detailed classification in the second part of the appendix, with a view to ascertain whether its parts are severally constituted in a proper manner.

The *first* class, consisting of three orders, corresponds with my Classes VII and VIII, and seems unobjectionable in itself, although capable of much subdivision.

The section of the *second* class, comprising "persons engaged
"in the domestic offices or duties of wives, &c." (Order 4), may be passed without comment. It has not much positive significance, as it is rather the complement of the population, than a distinct class of workers, and for that reason it might with much propriety be kept separate from the second section (Order 5), which is a positive, if not a properly defined, division of the actual working population.

Order 5 is made to comprise the incongruous elements of trade and menial service. Here we first meet with the fact, that the classification we are dealing with is so arranged as to ignore the great and in general well-defined class of retail traders. Indeed, the point of divergence between my plan and Dr. Farr's is just this, that he considers it impracticable to separate the traders from the rest of the population, looking, as he does, for a *perfect test* by which to discriminate between each of the several classes; whilst I am content to look chiefly to the practical results, attainable even by means of a somewhat rough separation. I have attempted to embody the process by which the mind naturally seeks to disentangle from the ordinary elements of the population of any place, those other elements which constitute its essential and characteristic features. And in proposing a more ambitious scheme than mine, the framer is obliged to contend with various difficulties, one of which is, that in many cases the same man has two or more occupations, as indeed was fully shown, in the case of farmers, by the Census Commissioners themselves. If it be judged that the essay on which I am commenting, so far from elucidating the

grounds for a purely scientific arrangement, tends to show that no such arrangement can possibly be reduced to practice, I am the better entitled to claim a share of attention for my scheme.

Menial servants correspond, of course, with the wants of the populations amongst whom they are found. Houses of entertainment for travellers and temporary residents are trading speculations, mainly based upon the wants of external populations. Thus the two classes do not become enlarged or contracted in like measure, but according to the dissimilar degrees of wealth and of activity in the populations which may be compared. For example, taking males (all ages)—

	Bath (City).	Bradford (Borough).	London.	Dorsetshire.
Innkeeper, hotelkeeper	36	82	467	359
Publican	125	56	5,924	149
Inn servant.....	84	83	10,553	192
Total	245	221	16,944	700
Domestic servants (except inn servants)....	645	108	23,330	1,147
Proportion of domestic servants to each 100 innkeepers, &c.	263	49	138	164

The extent to which domestic servants are employed is evidently far greater in Bath than in Bradford, when compared with the extent of inn and hotel accommodation at the respective places. The innkeepers depend upon a very different demand from that which gives employment to the domestic servants.

If the sub-orders were a little altered, by transferring inn servants into the same sub-order with innkeepers, the one would represent pretty fairly the menial class, and the other would form a section of the trading class.

A circumstance which illustrates the necessity of handling such questions in a *practical* manner, occurs here. The denominations “innkeeper,” “publican,” “beerseller,” are so variously applied in different places, that in spite of the *class* now under consideration being merely one “engaged in entertaining and performing “personal offices for man,” it has been judged expedient to include in one of its subdivisions the beersellers and publicans, as well as those who provide lodging and attendance, viz., the inn and hotel-keepers. This is a breach of the scientific rule, and might, of itself, have suggested the transfer of innkeepers, beersellers, &c., to another part of the classification. The class, if thus curtailed, would have been composed entirely of non-traders.

The *third* class is composed of two orders, and in the main is very satisfactorily conceived. But, again, we find a section of the trading portion of the community interposed in a very awkward manner. I allude to the second sub-order of Order 6.

Who can seriously maintain that pawnbrokers, marine store dealers, hawkers, costermongers, &c., ought to be included in the commercial class? They are merely a local accommodation, or a supplement to the class of retail shopkeepers, as the case may be. At all events, if they are included in deference to a scientific rule, why not bring in also the Manchester warehousemen, greengrocers, &c.?

Traffic is the soul of commerce, and those occupied about inland traffic are not improperly considered as appertaining to the commercial class. But it would have been better to have placed them in a distinct sub-order than in that which includes seamen and shipowners.

The *fourth* class is one so well defined by nature, that it would be hard to err seriously in arranging its details. This, then, requires no comment.

The *fifth* class, I think, is too extensive. Can we call a tin or copper miner, a "maker or artisan?" It seems to me that the miners should have formed a separate class.

I am glad that the Census Commissioners have now so far modified their former classification, as to gather into a distinct order "persons working and dealing in the textile fabrics and in "dress;" but I must object to one or two of the details of this new order. Drapers, mercers, tailors, and even boot and shoe-makers would have been better placed elsewhere. The title of the order would then have needed some alteration, but we should not have been again troubled by a mixture of the ubiquitous trading class with the true manufacturing element.

By subdividing the fifth class into mining, manufacturing, and trading classes, and throwing into the last the kindred sub-orders already pointed out, my objections would be removed. As regards the *practicability* of doing this, I have given some evidence in my papers on the Census of 1851. I should have been glad to have had an opportunity of stating my views as to the modifications required in order more completely to harmonise the classification there described with the principles laid down in this paper. They are set forth in another paper, lately read before the Historic Society of Lancashire and Cheshire, and printed in the "Transactions" of that Society, vol. ix. As to the *usefulness* of my original classification, an illustration will best show how far it is to be preferred above that employed in the new census.

1851. *Males Aged 20 Years and upwards. Author's Classification.*

	Hereford- shire.	Cornwall.	Lancashire.	England and Wales.
I. Agriculture	15,213	27,862	57,854	1,248,430
II. Mining	261	21,097	22,839	206,058
III. Manufactures	392	1,903	164,379	624,888
IV. Retail trade	7,394	19,985	145,938	1,406,064
V. Commerce and traffic	1,116	6,244	70,862	454,804
VI. Menial occupations	731	860	6,063	105,829
VII. Professional occupations	527	1,288	8,159	95,344
VIII. Governmental „	461	2,329	12,411	158,723
Unclassified	1,966	3,641	50,570	416,873
Totals	28,061	85,209	539,075	4,717,013

1861. *Males Aged 20 Years and upwards. Census Classification.*

	Hereford- shire.	Cornwall.	Lancashire.	England and Wales.
I. Professional	1,254	4,232	24,000	339,207
II. Domestic	1,004	1,602	15,343	183,597
III. Commercial.....	895	6,501	82,838	468,804
IV. Agricultural	14,962	25,869	64,008	1,286,960
V. Industrial	9,727	44,116	402,734	2,580,425
VI. Indefinite, &c.	2,366	2,950	40,545	323,524
Of no specified occupation	277	475	5,383	48,056
Totals	30,485	85,745	634,851	5,230,573

III.—*Summary.*

Returning to the general principles of classification, I may be allowed to summarise my ideas regarding the primary and secondary classes.

This distinction did not occur to me early enough to be adequately set forth in my rearrangement of the Census of 1851, but it was distinctly indicated, towards the end of the first paper which I laid before the Society upon that subject, and my classification was not such as to throw serious difficulties in the way of a readjustment on the principle which had thus early been brought to light. Its results were but scantily developed then, but they already pointed to the necessity of including the surrounding country, subserved by particular towns, in order to make reliable comparisons between one social organisation and another; or that if this were not done, at least town ought to be compared with town, and rural district with rural district (taking into consideration the proximity of large towns) in forming just parallels.

I wish there were room to suppose that an investigation of the

organisation of complete systems of town and country districts would meet with the attention of this Society. I believe it can be clearly shown:—

1. That the central town of every such system must contain a large population of the secondary classes.
2. That if the central town be a manufacturing place, the proportion of the secondary classes will be found to be lower than otherwise, but in nearly the same ratio as if to a non-manufacturing town adequate in magnitude for a centre of supply to the district, a purely manufacturing town had been joined.
3. That the outlying districts belonging to the special sphere of action of such central town, by themselves, must contain a large proportion of population of the primary classes.
4. That, on the whole, the proportion of the secondary population in each entire system is very regular, but indicates, in a measure, the degree of wealth and luxury in the system in question, subject to the qualification that the denser the population, and the greater the activity and industry it exhibits, the more efficient a given proportion of secondary inhabitants may be presumed to be. On the other hand, among rude and scattered populations (and even among some of a better character), the extent of home work is so much enlarged, that the ratio of secondary workers may be comparatively small, without being accompanied by unusual privation or inconvenience.
5. That besides central towns, places of summer resort are always distinguished by possessing an especially large secondary population.
6. That towns in general have much larger proportions of secondary workers than country districts, with the exception of some manufacturing and mining villages or towns, where no traffic of any importance exists with the surrounding country, and which therefore contain only so many secondary workers as are required by their own inhabitants.
7. That the principal classes into which the secondary portion of the population may be divided, each of them bear a numerical relation to the total number, sufficiently constant to arrest the attention of the observer; but,
8. That the classes constituting the primary portion of the population have nothing like a constant numerical relation to each other. Nothing, therefore, but actual enumeration

can give us the most rudimentary idea of the proportions each of these classes may bear to their total number, in any particular place.

But, of course, the magnitudes of the respective primary classes indicate the necessities which have drawn the respective populations together, and the advantages which the several places have been found to possess.

Thus, returning to our opening illustration, we perceive, from considering the primary classes, the moral or physical forces which have compelled the population to take a particular course; to inhabit the land densely here, sparsely there; and which forces are nearly as irresistible as those by which a river is guided in its onward course. It remains but to add, that by removing the cause, in either case, the effect ceases; an invention, a new facility, or a discovery elsewhere may supersede a town, and cause it to fall into decay, whilst creating another in its stead, just as a river may be turned into a fresh channel by the cutting of a canal, which offers it an easier outfall than its original bed.

It is not without diffidence that I submit these views, knowing the keen criticism to which they will be subjected; but I am even more anxious for a thorough discussion and satisfactory settlement of the matter, than I am for the acceptance of my ideas; believing as I do that great progress may be made in depicting the organisation of labour, without waiting for the completion of that exhaustive inquiry which Dr. Farr has suggested.

I was led to contemplate the theoretical side of the question, by the reflection how difficult it was to give a rational explanation of the existence and growth of this enormous metropolis. We find many thousands here who live by supplying one another's wants; and the question arises, whence come the original means by which such a state of things is rendered possible? What, in fact, is the primary fund of which these persons manage to secure a share?

The operations of foreign commerce as carried on in London do not require a population much exceeding that of Liverpool; the expenditure of the magnates of the West End will not account for the other two millions, and even taking into consideration the Government establishments, the courts of law, and the various manufactures of particular districts, no sufficient reason presents itself for such a vast aggregation of persons. But when the immense numbers of the trading classes are considered, we are reminded that London is in effect the shop, not only of the greater part of England south of the Trent, but of a great portion of the civilised world, and we perceive that the sums expended here in retail purchases and in the employment of tradesmen must be enormous.

One source from whence the means of such expenditure are derived, is the large share the inhabitants of London possess in the profits of commercial operations carried on at a distance. The shipping which enter and clear from our port, carry but a part of the adventures of London merchants. Capital belonging to residents in London is also lent to every Government, and engaged in almost every enterprise throughout the world. All these facts require to be contemplated, before the great fact of the existence and continued growth of such a city can be felt to be natural, and even then, the unlimited field there is here for every kind of ability is not more evident than the painful uncertainty of the fortunes of individuals.

IV.—*Suggestions as to the forthcoming Census.*

The near approach of the period when arrangements must be made for taking another census, suggests the question, what new or altered inquiries may advantageously be made?

It will be obvious, that supposing the doctrines advocated in this paper meet with a favourable reception, it may become desirable to alter very materially the forms of the schedules of occupations, so as to elicit the facts with due regard to the distinctions proposed to be made.

With regard to the other portions of the last census, I would suggest that it may be of service to distinguish not only the ages of foreigners living in this country, but also the ages of the Irish and Scotch, and even the ages of the natives of other counties (taken collectively) who are found in each county, or at any rate in each division.

My motive for recommending this is, that were we acquainted with the ages of the strangers dwelling in each county, we could the more accurately estimate the mortality which takes place amongst them between the periods of the censuses. And an estimate of such mortality is indispensable, if we would learn approximately the numbers of persons who migrate into and from each county in each decennial period. For example, it is found that the number of Irish, Scotch, and foreign inhabitants resident in England was—

In 1851	762,216 persons.
„ '61	946,274 „

I believe it required an immigration of fully 340,000 persons in that decennium to fill up the gaps occasioned by deaths, and bring about the increase of 184,000 ascertained to have taken place. But I should be glad to possess data for a more exact calculation.

The same returns of ages would be of service to us, in forming

an estimate of the number of unregistered births, for they would show how many young children enumerated here were not born in England.

I have elsewhere gone into calculations, somewhat elaborate in their nature, which tend to show that not more than three births in one hundred now escape registration; but that the proportion approaches 10 per cent. in Liverpool, and 5 per cent. in London, being in most other places considerably lower.

I think it would be well, if an effort were made on the occasion of the coming census, to rectify the areas of parishes and townships where they are found to be inaccurate, and to set out the areas of subdivisions with at least so much detail as to allow of the total area of each registration district being truly stated. At present, the total area of a parish, *e.g.*, Rochdale, is returned in one district, whilst a large section of it is returned as to population in another, without any area.

I am not aware of any improvement being needed in the tables of numbers, ages, and civil condition of the population. But the suggestion made by Mr. Caird, that houses of two or three rooms only should be separately returned, appears to be valuable. There can be no doubt but that great inequalities exist in the cottage accommodation of different parts of the country, and by bringing this out in a striking manner, an early and rapid improvement in the more backward districts might be rendered more probable.

For an analogous reason, it might be well to show separately the numbers of children who were found to be working in agricultural "gangs," as distinguished from other children employed in agricultural work.

I do not think it will be found expedient to attempt a census of religions in 1871. If such a census were taken, however, I would suggest that attention should be paid to sex and age, as well as to mere numbers; and as the word Protestant is becoming unfashionable in some quarters, it might be expedient to provide separate columns for Anglican Catholics and Roman Catholics.

As to education, it is incumbent on the Government to attempt to obtain the fullest information possible, as that question will soon agitate the whole country, and certainly affects its interests very deeply. In the absence of any better method, pupils might be classified according to the status of the masters by whom they are taught, and formed into larger groups according to the character of the schools in which they are educated. The age and sex of the pupils would of course be shown, and if by any means the numbers *inefficiently* taught could be distinguished, such information would be of great value. A question might perhaps be put as to the time

each child had been at school, whether found at school at the date of the census or not.

A difficulty has hitherto existed in justly apportioning the deaths in hospitals and other public institutions amongst the registration districts whence their patients are believed to be derived. The best method of obviating this, would be to ascertain from the hospital authorities, in every case ending fatally, where their patient had been last resident before being received within their walls. If such information cannot easily be had, some advantage might result from the ascertainment at the census of the localities whence the living in-patients had come.

For want of such information, Dr. Farr has had no choice but to assume that every London parish participates equally, age for age, and sex for sex, in the mortality which occurs in London hospitals; and this assumption is proved to be untrue by the impossible results to which it leads in the case of the West London Union, where the mortality among females aged 15 to 20, is represented in his corrected tables at about one-sixth of what is probably the truth.

It is unfortunate that so few writers really take an intelligent interest in population statistics, that a habit has grown up of either receiving such statistics with an unseemly readiness of belief, or else of seizing every occasion of discrediting the returns, which, on the whole, are faithful and valuable. I am sure Dr. Farr must be equally disappointed, whether he sees his figures received with unreasoning acquiescence, or indiscriminating scepticism; and yet, until an entire change shall have taken place in the spirit of the newspaper press, he may almost reckon with certainty upon one or the other.

The uses of population statistics have, however, been as much to prevent the circulation of errors, as to promote the knowledge of facts, and in both respects I trust the productions of the Census Office will continue to be most valuable.
